Introduction to eGIS Survey Application

Lecture	Introduction: What is the Survey Application?
Exercise A	Formatting XYZ Data
Exercise B	RAW Data Loading
Exercise C	eGIS Profile Tool

eGIS Survey Application – Instructor Demonstration

Notes:

Module Introduction

Overview

This module gives an introduction to the eGIS Survey application tools. These tools allow users the ability to import raw ASCII text data files and load them into an enterprise GIS system. These Survey application tools allow users the ability to

- **Share Data--**Loading the raw survey data into a central location in an easy-to-use format allows for easier data sharing throughout each Division. The goal is to decrease your data call work loads.
- **Upload Data--** You'll be working with your raw survey data and taking a few extra steps to ensure that everyone has access to this data.
- **Create--**This system will allow Operations Division to create a central repository of all survey and mapping.
- **Visualization--**This tool allows the user to have the final

Skills Learned

- Understand types of surveys which can be loaded
- Understand survey loading process
- Understand the basics of the GIS needs and ArcMap interface

Tools and Technology

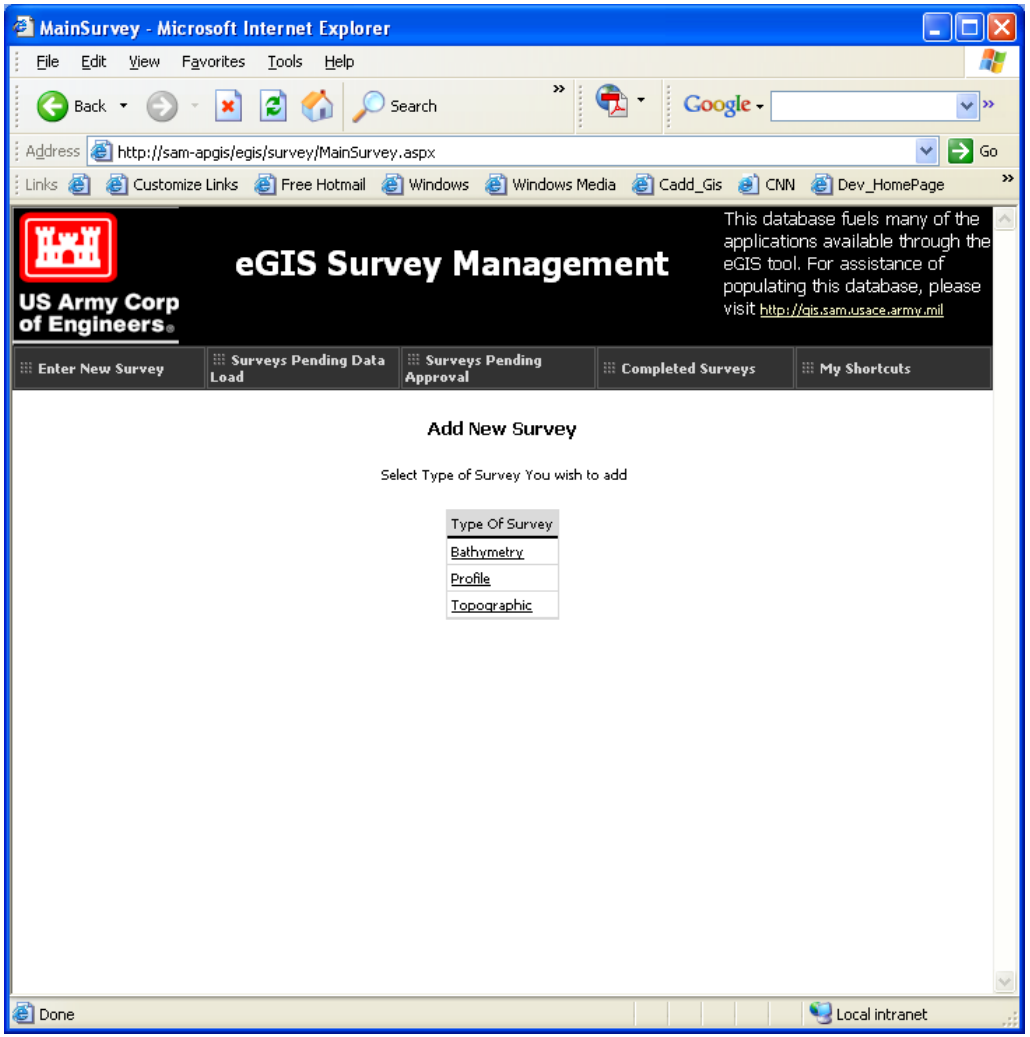
Survey Components

- Web Application
- ArcGIS Desktop Application
- eGIS Profile Tool

Introduction: Understanding the Components of the EGIS Survey Application

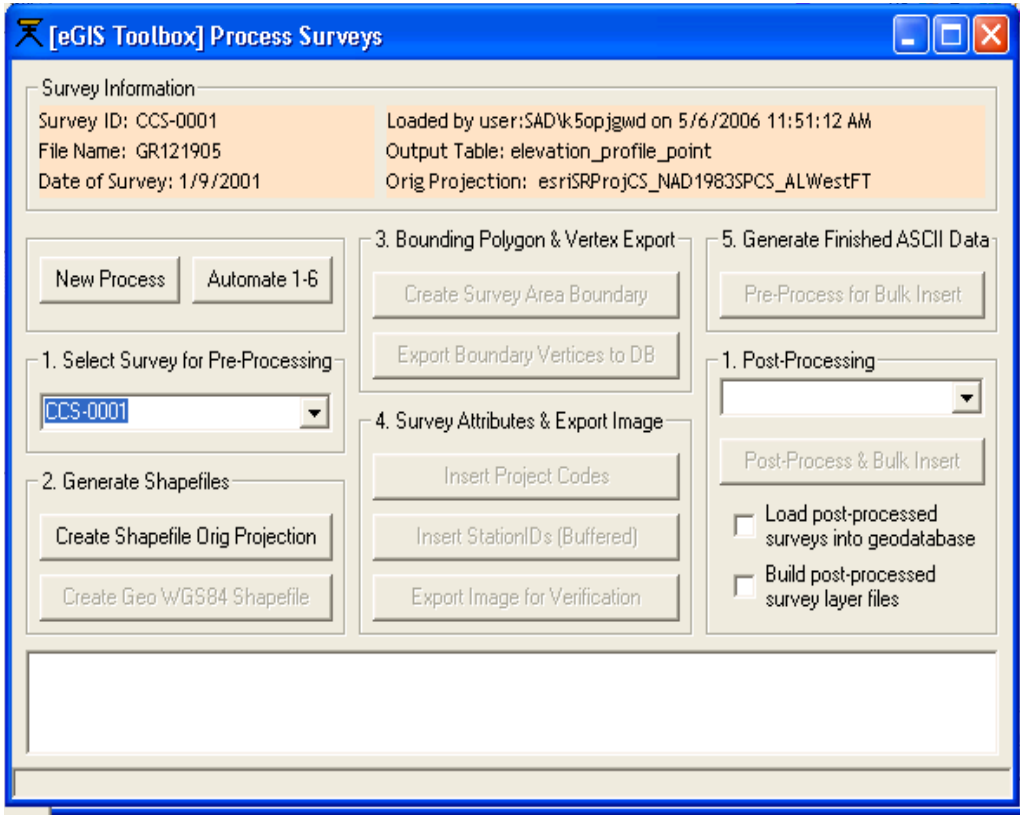
eGIS Survey Web Interface Application

- The EGIS Survey Web interface was built to allow a survey technician the ability to upload raw XYZ channel data as well as other types of surveys into an enterprise GIS system without needing GIS training
  - Data loading occurs in three phases: Raw Data loading, a QA\QC approval process, and finally Data loading into the enterprise geodatabase system
- It uses your standard USACE Windows User ID to allow you access to the system and the rights to view or upload data
  - Using your User ID, the system will send an e-mail when it needs a user to approve or disapprove survey (s) once they have been pre-processed.


MainSurvey - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Google
Address http://sam-apgis/egis/survey/MainSurvey.aspx Go
Links Customize Links Free Hotmail Windows Windows Media Cadd_Gis CNN Dev_HomePage
US Army Corp of Engineers
eGIS Survey Management
This database fuels many of the applications available through the eGIS tool. For assistance of populating this database, please visit http://gis.sam.usace.army.mil
Enter New Survey
Surveys Pending Data Load
Surveys Pending Approval
Completed Surveys
My Shortcuts
Add New Survey
Select Type of Survey You wish to add
Type Of Survey
Bathymetry
Profile
Topographic
Done
Local intranet

ArcGIS/ArcMap Desktop Processing Application

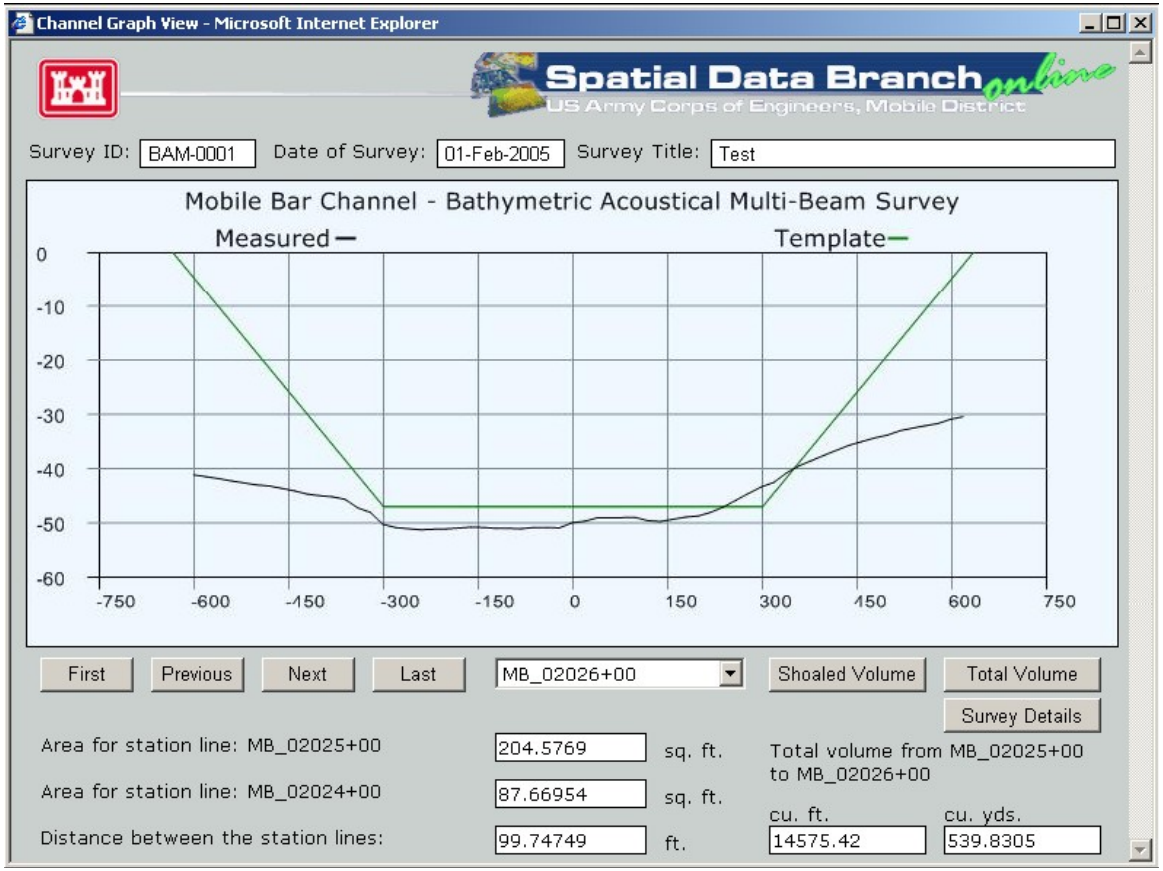
- This application runs on a server within OP-J and performs the GIS processing needed to get the data into the eGIS system. It processes the surveys loaded into the Web application in two steps: Pre-Processing and Post Processing.
  - Once a user loads a survey, it will perform a series of data checks to ensure that it was loaded properly and meets accuracy needed.
  - After Pre-Processing is complete, the application will send the user an e-mail requesting they go back to the web application to approve the data accuracy.
  - Once the survey has been approved, it uploads that data into the eGIS System.



Introduction: Understanding the Components of the EGIS Survey Application

ArcIMS Profile Application

- The Profiler tool allows a user to overlay a profile of a set of survey data against the channel design template.
  - The ArcIMS Profiler Tool has the capability to calculate volumes between any two consecutive stations based on average end area methodology outlined in Chapter 15 in the Dredge Measurement and Payment Volume Computations of EM 1110-2-1003 Engineering and Design – Hydrographic Surveying.
  - Total volume for the survey can also be calculated and printed in report form



Introduction: eGIS Survey Types

Bathymetry

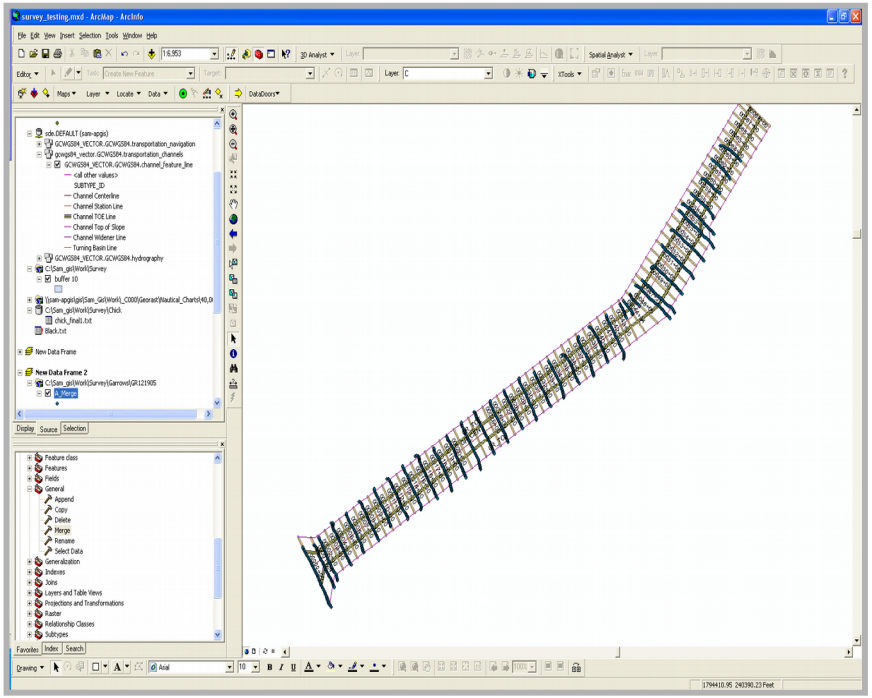
- Locations below the surface of the water where the depth of water is precisely known relative to some reference.
  - Bathymetric Acoustical Multi-Beam Survey
  - Bathymetric Acoustical Single-Beam Survey
  - Bathymetric Conventional Survey
  - Bathymetric Lidar Survey

Profile

- Individual topographic or bathymetric points that run in at linear distance to make up profiles such as:
  - Profile Before and After Dredge Channel Cross Section Survey
  - Profile Beach Survey
  - Profile Jetty Cross Section Survey
  - Profile Breakwater Cross Section Survey

Topography

- A point on the surface of the earth of known elevation.
  - Topographic Conventional Survey
  - Topographic Lidar Survey
  - Topographic Photogramtrical Conventional Survey
  - Topographic Photogramtrical Digital Survey
  - Topographic Reconnaissance Survey



Garrow's Bend Profile Survey

Exercise A: Formatting XYZ Data

Background

A common delivery format for survey point data is a comma or tab delimited XYZ text file. The eGIS Survey Web Application requires that data loaded must be in a comma delimited text file format. For this version of the web application, it will require a SINGLE text file per survey.

Goal

After completing the exercise, you will be able to successfully move all survey data to a single ASCII text file.

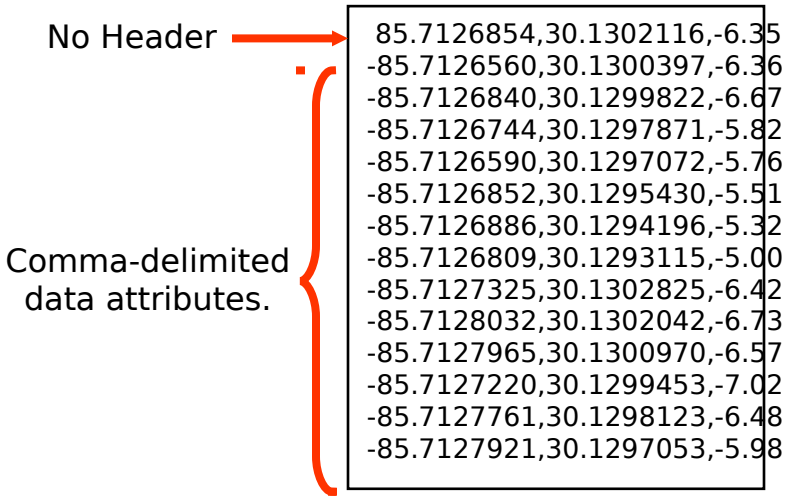
Objectives

1. Student will be able to create a single ASCII text file from multiple sources

Exercise A: Formatting XYZ Data

The file format needed for a successful eGIS Survey data load is referred to as “XYZ” file where x is longitude or easting, y is latitude or northing, and z is elevation or depth. This application can ingest data from geographic or projected coordinate systems. However on ALL depths must be exported as ***negative*** values.

In order for application to recognize the contents of the text file, the file must be comma delimited and contain NO header row information. A comma-delimited text file should for formatted similar to the text below:

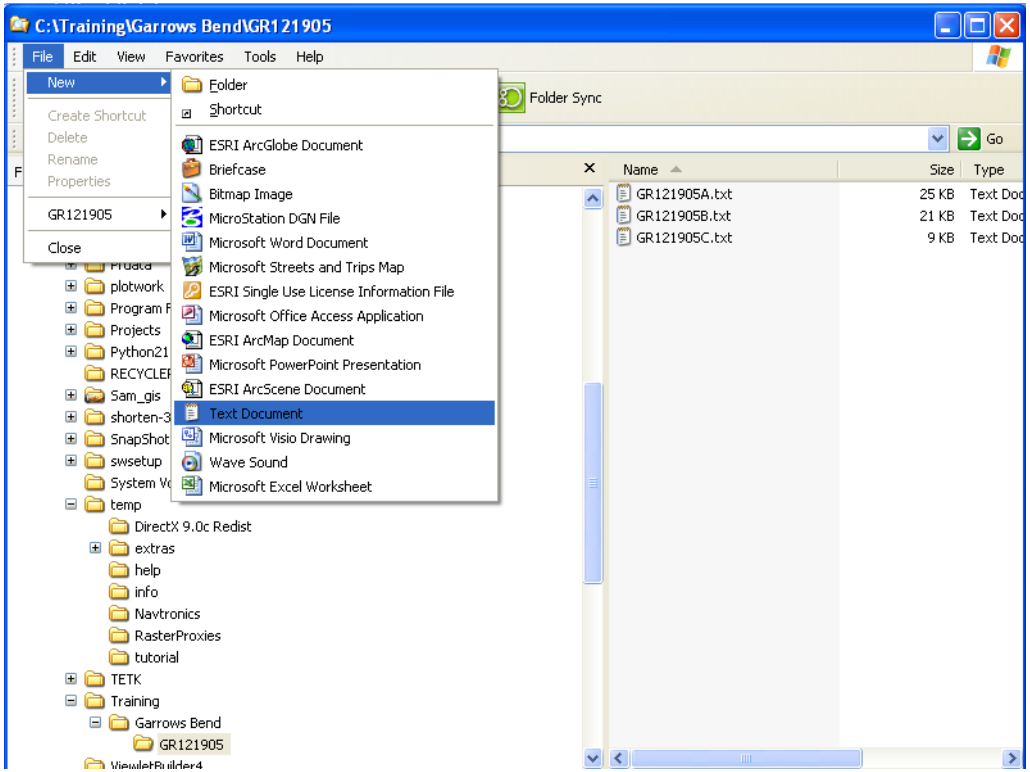


Since a survey is processed in sections, you will need to export each section as its own text file. Once that is complete, you will need to create a new text file and copy all the data from each text file into your new file. Finally you will have a single text file containing all of the processed survey data.

Exercise A: Formatting XYZ Data

Open widows explorer and navigate to **C:\Training\Garrows Bend\GR121905.** Notice that there are three existing text files for the GR121905 survey: GR121905A, GR121905B, and GR121905C. From the Main menu select *File→ New → Text Document* and name it GR121905

1. Open the GR121905A and GR121905 with NotePad
2. In the GR121905A file, from the Main menu, Select *Edit*, then *Select All* , then select *Edit* again, finally select *Copy.*
3. Inside of the GR121905 text document, From the Main menu Select *Edit*, then *Paste*
4. Repeat these steps for the other documents to get all the survey data in to a single text document
5. Finally be sure to Save the GR121905 text document then you are finished



Exercise B: RAW Data Loading

Open your Internet Explorer browser and type in the address: http://sam-apgis/egis/survey/MainSurvey.aspx

1. From the main screen, select the type of survey you will be loading. For our exercise, we will select ***Profile***

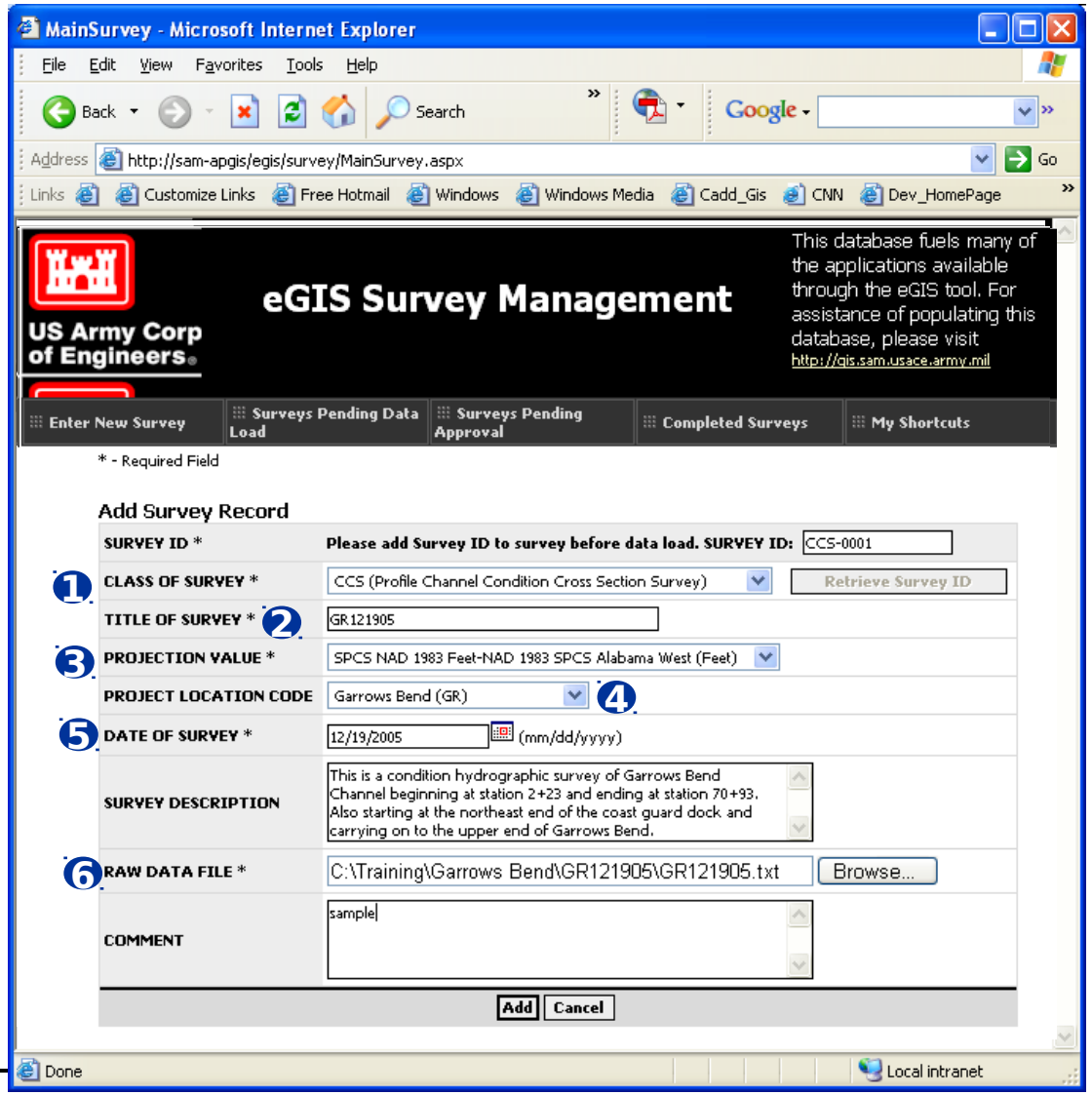
2. On the Add Survey Record screen, all fields with an asterisk * must be completed

3. Select the "class of survey" from the drop-down menu (i. e. the type of survey). You MUST Click ***Retrieve Survey ID***

4. Then you must enter the Title, Projection, and Date of the Survey, along with the description
   Note: The Description field is only 255 characters.

5. Next you will browse to the GR121905 text file you created in the previous exercise.

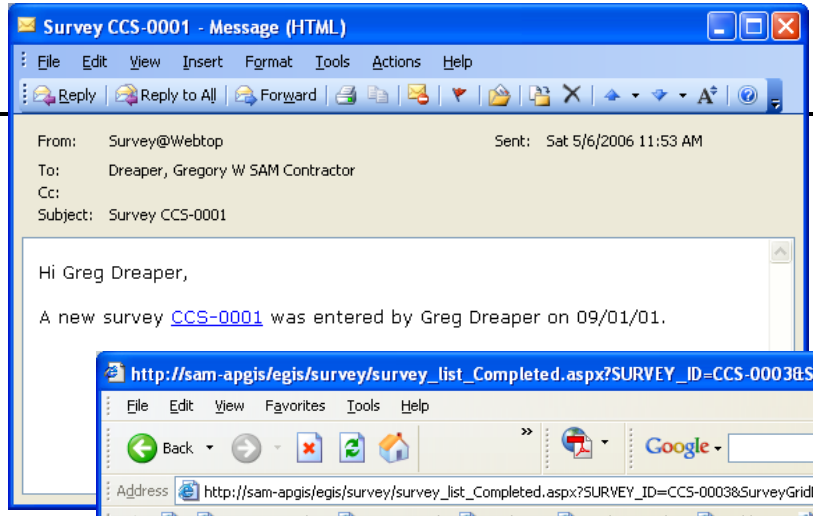
6. Finally select the ***Add*** button to load the data.

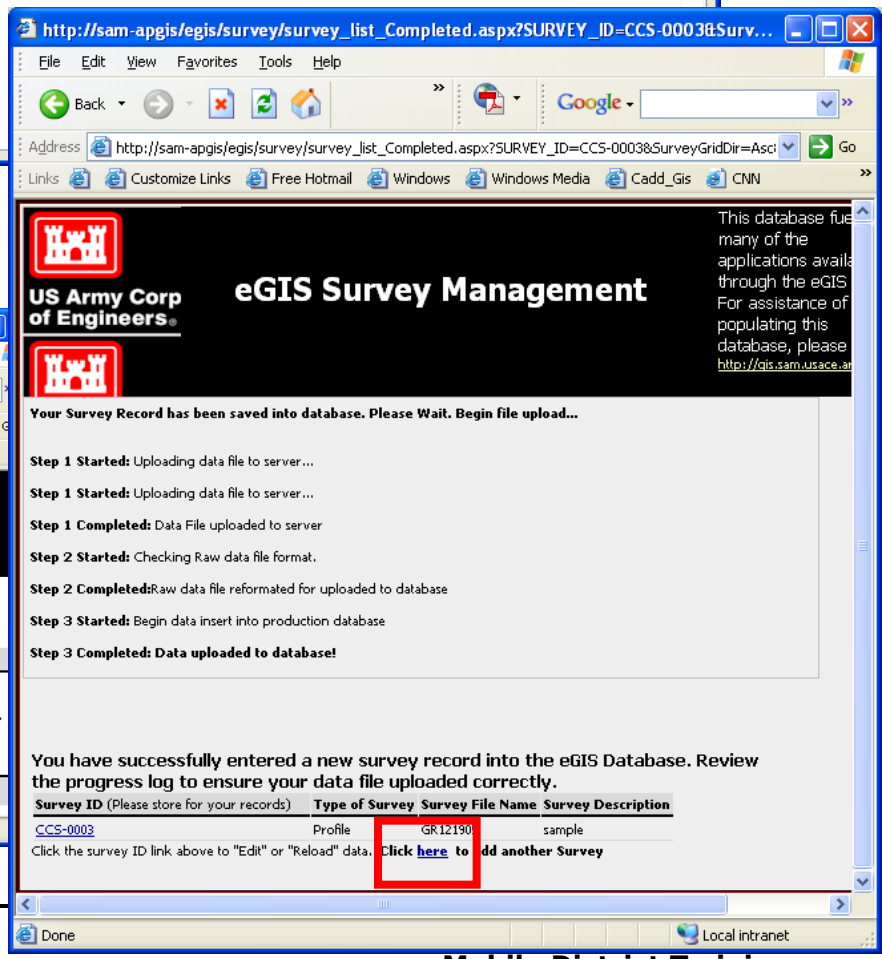

MainSurvey - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Google
Address http://sam-apgis/egis/survey/MainSurvey.aspx
Go
Links Customize Links Free Hotmail Windows Windows Media Cadd_Gis CNN Dev_HomePage
US Army Corp of Engineers
eGIS Survey Management
This database fuels many of the applications available through the eGIS tool. For assistance of populating this database, please visit http://gis.sam.usace.army.mil
Enter New Survey
Surveys Pending Data Load
Surveys Pending Approval
Completed Surveys
My Shortcuts
* - Required Field
Add Survey Record
SURVEY ID *
Please add Survey ID to survey before data load. SURVEY ID:
CCS-0001
1
CLASS OF SURVEY *
CCS (Profile Channel Condition Cross Section Survey)
Retrieve Survey ID
2
TITLE OF SURVEY *
GR121905
3
PROJECTION VALUE *
SPCS NAD 1983 Feet-NAD 1983 SPCS Alabama West (Feet)
PROJECT LOCATION CODE
Garrows Bend (GR)
4
5
DATE OF SURVEY *
12/19/2005
(mm/dd/yyyy)
SURVEY DESCRIPTION
This is a condition hydrographic survey of Garrows Bend Channel beginning at station 2+23 and ending at station 70+93. Also starting at the northeast end of the coast guard dock and carrying on to the upper end of Garrows Bend.
6
RAW DATA FILE *
C:\Training\Garrows Bend\GR121905\GR121905.txt
Browse...
COMMENT
sample
Add
Cancel
Done
Local intranet

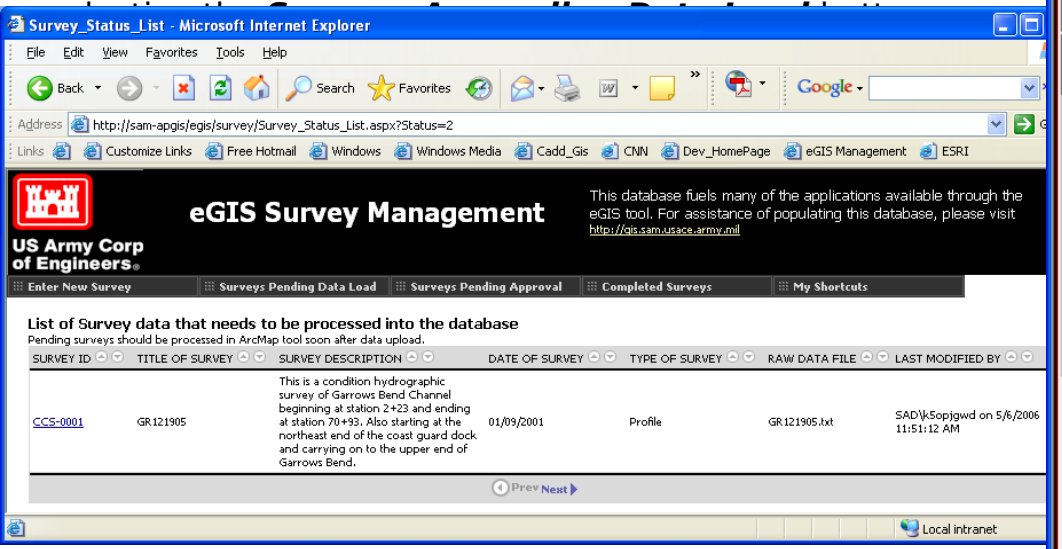
Exercise B: RAW Data Loading

If the raw ascii survey text data has been loaded into the web application **successfully**, the application will display the successful steps and the user will be allow to load another survey with the link at the bottom of the page or view the currently loaded survey. The user will get an e-mail stating the survey has been successfully uploaded and is ready for ***Pre-Processing***.

This data can also be viewed in the Web application by


Survey CCS-0001 - Message (HTML)
File Edit View Insert Format Tools Actions Help
Reply Reply to All Forward
From: Survey@Webtop
Sent: Sat 5/6/2006 11:53 AM
To: Dreaper, Gregory W SAM Contractor
Cc:
Subject: Survey CCS-0001
Hi Greg Dreaper,
A new survey CCS-0001 was entered by Greg Dreaper on 09/01/01.

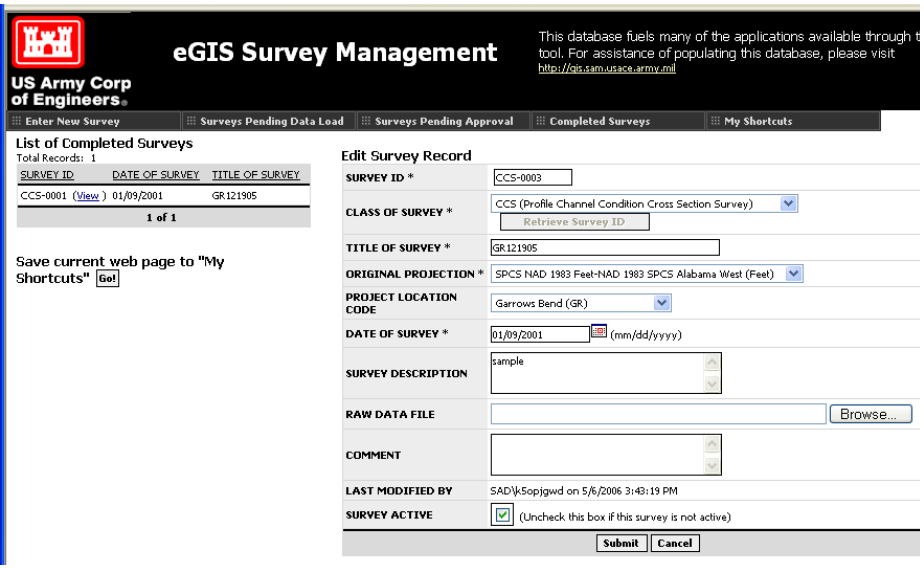

http://sam-apgis/egis/survey/survey_list_Completed.aspx?SURVEY_ID=CCS-0003&Surv...
US Army Corp of Engineers
eGIS Survey Management
This database fue
many of the
applications avail
through the eGIS
For assistance of
populating this
database, please
Your Survey Record has been saved into database. Please Wait. Begin file upload...
Step 1 Started: Uploading data file to server...
Step 1 Started: Uploading data file to server...
Step 1 Completed: Data File uploaded to server
Step 2 Started: Checking Raw data file format.
Step 2 Completed:Raw data file reformated for uploaded to database
Step 3 Started: Begin data insert into production database
Step 3 Completed: Data uploaded to database!
You have successfully entered a new survey record into the eGIS Database. Review the progress log to ensure your data file uploaded correctly.
Survey ID (Please store for your records)
Type of Survey
Survey File Name
Survey Description
CCS-0003
Profile
GR12190
sample
Click the survey ID link above to "Edit" or "Reload" data.
Click here to
dd another Survey

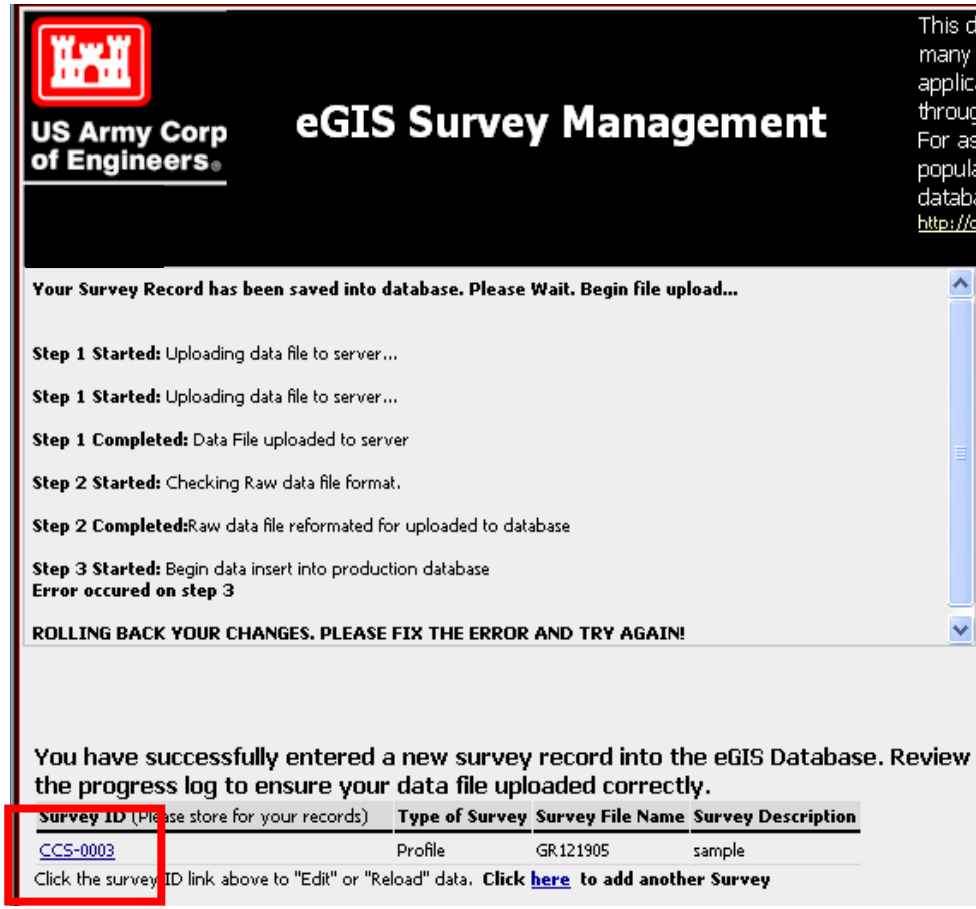

Survey_Status_List - Microsoft Internet Explorer
http://sam-apgis/egis/survey/Survey_Status_List.aspx?Status=2
US Army Corp of Engineers
eGIS Survey Management
This database fuels many of the applications available through the eGIS tool. For assistance of populating this database, please visit
http://gis.sam.usace.army.mil
Enter New Survey
Surveys Pending Data Load
Surveys Pending Approval
Completed Surveys
My Shortcuts
List of Survey data that needs to be processed into the database
Pending surveys should be processed in ArcMap tool soon after data upload.
SURVEY ID
TITLE OF SURVEY
SURVEY DESCRIPTION
DATE OF SURVEY
TYPE OF SURVEY
RAW DATA FILE
LAST MODIFIED BY
CCS-0001
GR121905
This is a condition hydrographic survey of Garrows Bend Channel beginning at station 2+23 and ending at station 70+93. Also starting at the northeast end of the coast guard dock and carrying on to the upper end of Garrows Bend.
01/09/2001
Profile
GR121905.txt
SAD\k5opjgwd on 5/6/2006 11:51:12 AM
Prev Next
Local intranet

Exercise B: RAW Data Loading

If the raw ascii survey text data has been loaded into the web application **unsuccessfully**, an error message will appear immediately and the user will be able to view the application step that failed

The user will need to make any corrections and reload the raw ascii survey text data again with the link provided.


US Army Corp of Engineers
eGIS Survey Management
This database fuels many of the applications available through t
tool. For assistance of populating this database, please visit
http://gis.sam.usace.army.mil
Enter New Survey
Surveys Pending Data Load
Surveys Pending Approval
Completed Surveys
My Shortcuts
List of Completed Surveys
Total Records: 1
SURVEY ID
DATE OF SURVEY
TITLE OF SURVEY
CCS-0001 (View) 01/09/2001 GR121905
1 of 1
Save current web page to "My Shortcuts" Go!
Edit Survey Record
SURVEY ID * CCS-0003
CLASS OF SURVEY * CCS (Profile Channel Condition Cross Section Survey)
Retrieve Survey ID
TITLE OF SURVEY * GR121905
ORIGINAL PROJECTION * SPCS NAD 1983 Feet-NAD 1983 SPCS Alabama West (Feet)
PROJECT LOCATION CODE Garrows Bend (GR)
DATE OF SURVEY * 01/09/2001 (mm/dd/yyyy)
SURVEY DESCRIPTION sample
RAW DATA FILE Browse...
COMMENT
LAST MODIFIED BY SAD\k5opjgwd on 5/6/2006 3:43:19 PM
SURVEY ACTIVE (Uncheck this box if this survey is not active)
Submit Cancel

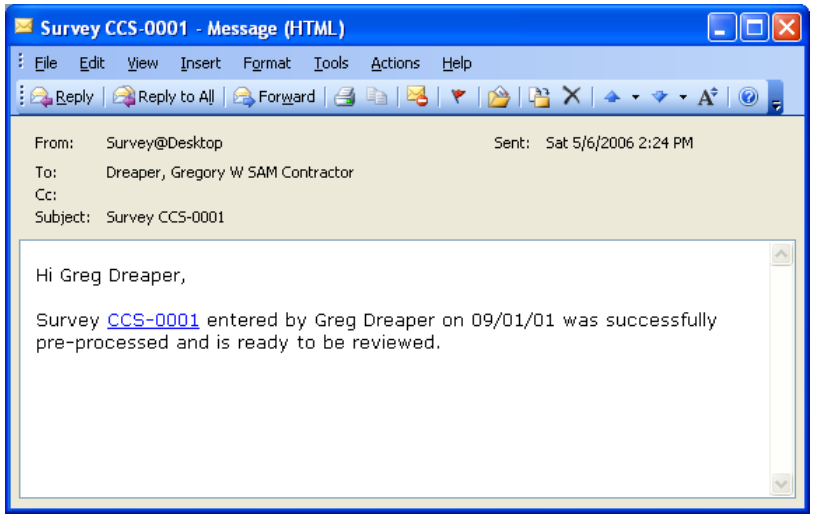

US Army Corp of Engineers
eGIS Survey Management
Your Survey Record has been saved into database. Please Wait. Begin file upload...
Step 1 Started: Uploading data file to server...
Step 1 Started: Uploading data file to server...
Step 1 Completed: Data File uploaded to server
Step 2 Started: Checking Raw data file format.
Step 2 Completed:Raw data file reformated for uploaded to database
Step 3 Started: Begin data insert into production database
Error occured on step 3
ROLLING BACK YOUR CHANGES. PLEASE FIX THE ERROR AND TRY AGAIN!
You have successfully entered a new survey record into the eGIS Database. Review the progress log to ensure your data file uploaded correctly.
Survey ID (Please store for your records)
Type of Survey
Survey File Name
Survey Description
CCS-0003
Profile
GR121905
sample
Click the survey ID link above to "Edit" or "Reload" data. Click here to add another Survey

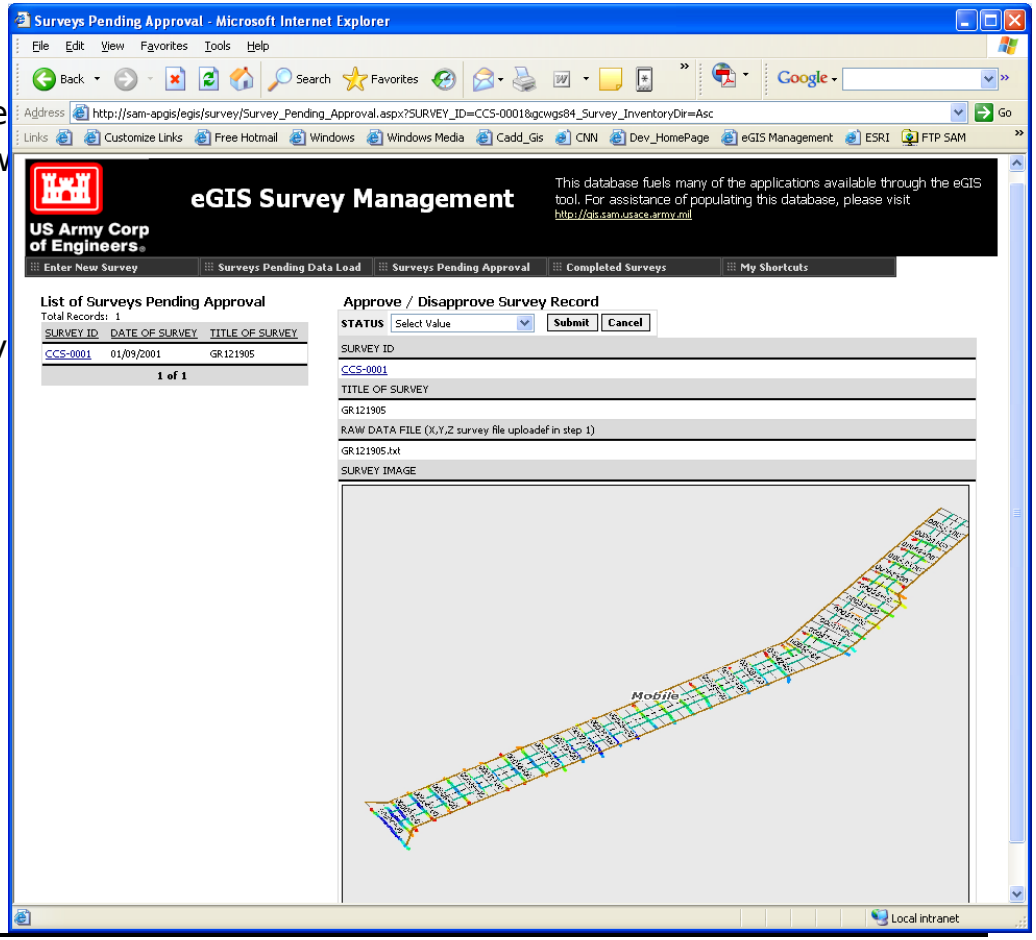
Exercise B: RAW Data Loading

When the Survey is pre-processed, the user will receive an e-mail stating that there where problems during processing or requesting the user's Approval or disapproval of the survey for final data loading into the eGIS System

Using the status drop-down list, the user will ne
to approve or disapprove the pre processed raw
data. Then, select ***Submit***

If the survey is approved, the Technician has completed the loading process. If is not approv
the tech will need to review the raw data


Survey CCS-0001 - Message (HTML)
File Edit View Insert Format Tools Actions Help
Reply Reply to All Forward
From: Survey@Desktop
Sent: Sat 5/6/2006 2:24 PM
To: Dreaper, Gregory W SAM Contractor
Cc:
Subject: Survey CCS-0001
Hi Greg Dreaper,
Survey CCS-0001 entered by Greg Dreaper on 09/01/01 was successfully pre-processed and is ready to be reviewed.

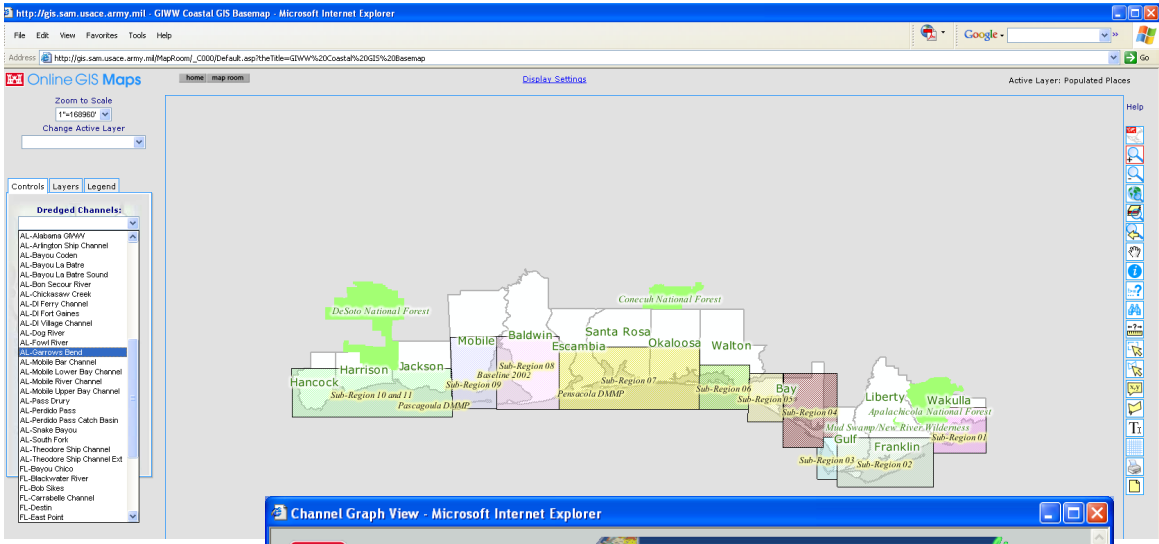


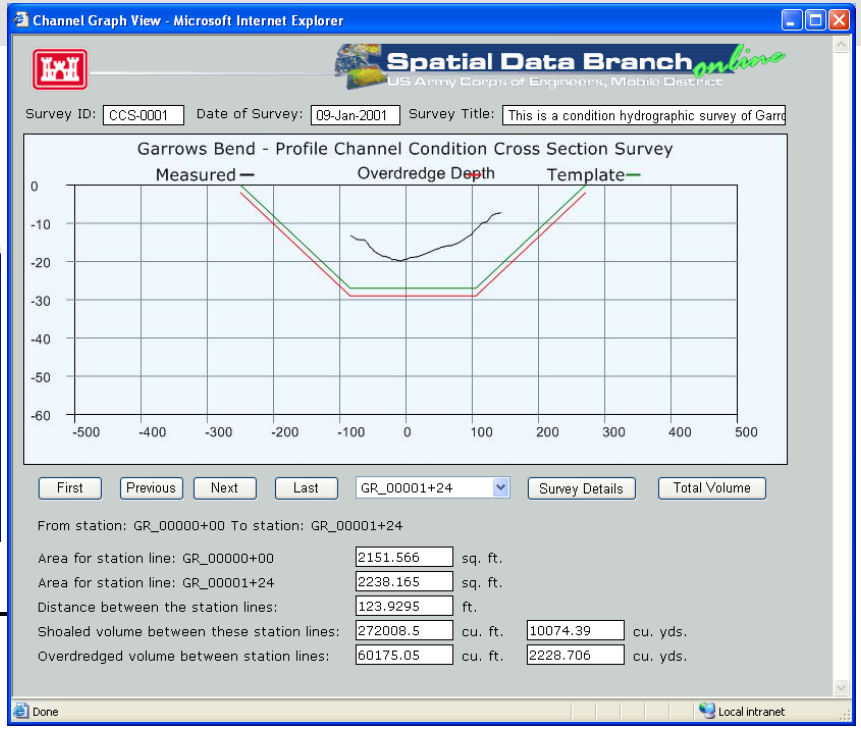
Exercise B: eGIS Profile Tool

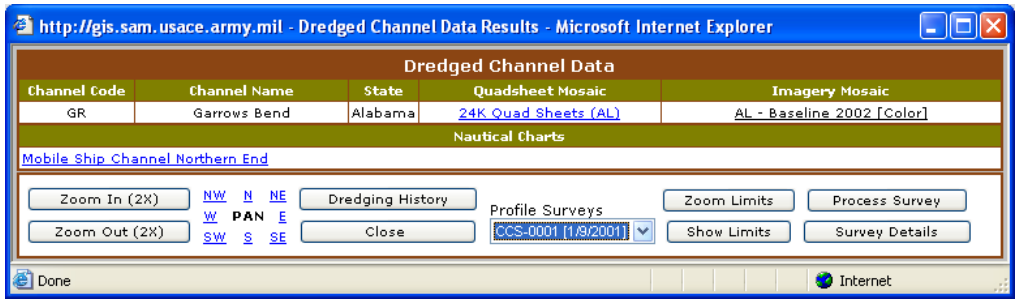
1. Using Internet Explorer, navigate to our eCoastal maproom @ http://gis.sam.usace.army.mil/MapRoom/_C000/Default.asp

2. Select the channel, then the survey you want to view

3. Once a survey is selected, click process survey to open the eGIS profile application



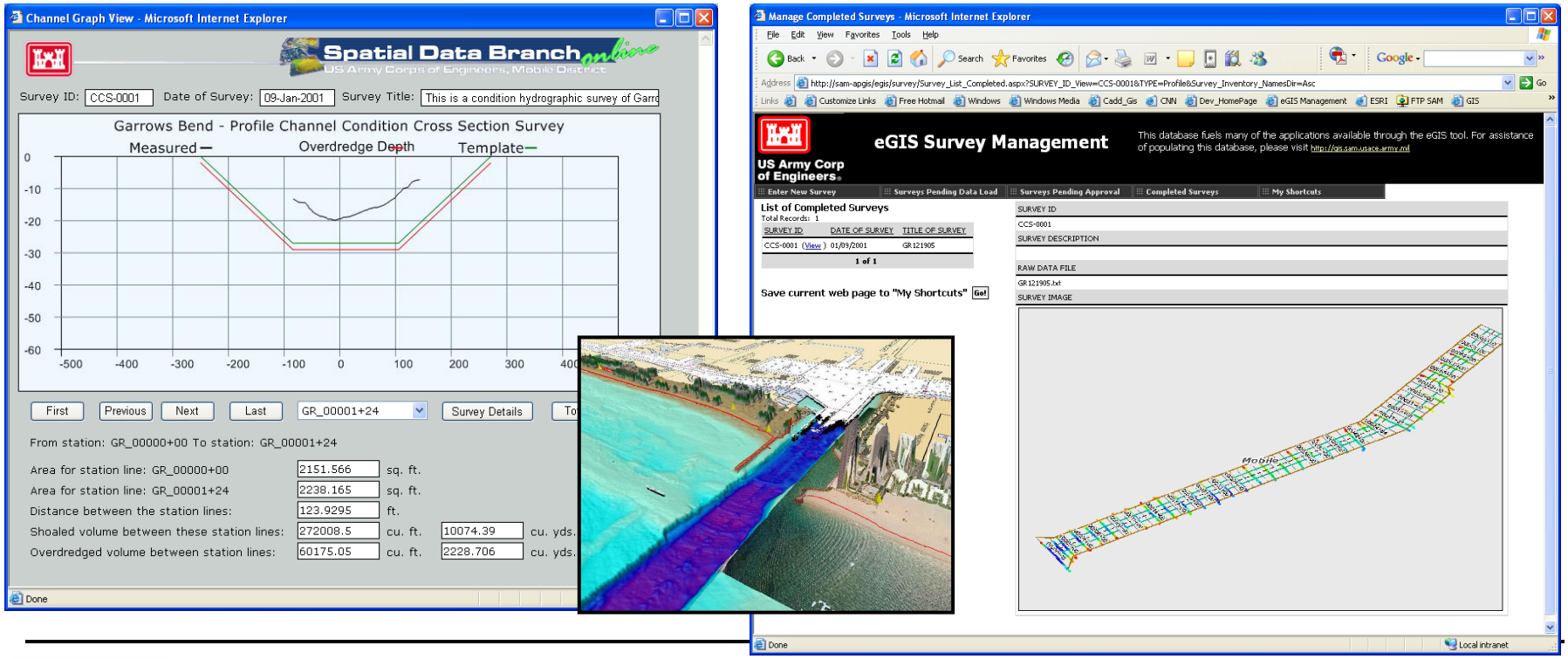

Channel Graph View - Microsoft Internet Explorer
Spatial Data Branch online
US Army Corps of Engineers, Mobile District
Survey ID: CCS-0001
Date of Survey: 09-Jan-2001
Survey Title: This is a condition hydrographic survey of Garro
Garrows Bend - Profile Channel Condition Cross Section Survey
Measured
Overdredge Depth
Template
First
Previous
Next
Last
GR_00001+24
Survey Details
Total Volume
From station: GR_00000+00 To station: GR_00001+24
Area for station line: GR_00000+00 2151.566 sq. ft.
Area for station line: GR_00001+24 2238.165 sq. ft.
Distance between the station lines: 123.9295 ft.
Shoaled volume between these station lines: 272008.5 cu. ft. 10074.39 cu. yds.
Overdredged volume between station lines: 60175.05 cu. ft. 2228.706 cu. yds.



Module Summary

Volume Calculation & Data Visualization Using eCoastal Tools

This module provided instructions and insight on the steps necessary to load data into the USACE's eGIS system. You should be able to mosaic raw xyz ASCII data into a text file, load that file into the eGIS Survey Web application, and finally perform the QA\QC process before its uploading into the eGIS System. The eGIS: Survey Application was created to assist the user by providing a GUI interface to allow a Survey Technician the ability to upload data into an enterprise GIS system.


Channel Graph View - Microsoft Internet Explorer
Spatial Data Branch online
US Army Corps of Engineers, Mobile District
Survey ID: CCS-0001
Date of Survey: 09-Jan-2001
Survey Title: This is a condition hydrographic survey of Garrc
Garrows Bend - Profile Channel Condition Cross Section Survey
Measured
Overdredge Depth
Template
First
Previous
Next
Last
GR_00001+24
Survey Details
From station: GR_00000+00 To station: GR_00001+24
Area for station line: GR_00000+00 2151.566 sq. ft.
Area for station line: GR_00001+24 2238.165 sq. ft.
Distance between the station lines: 123.9295 ft.
Shoaled volume between these station lines: 272008.5 cu. ft. 10074.39 cu. yds.
Overdredged volume between station lines: 60175.05 cu. ft. 2228.706 cu. yds.
Done
Manage Completed Surveys - Microsoft Internet Explorer
eGIS Survey Management
US Army Corp of Engineers
This database fuels many of the applications available through the eGIS tool. For assistance of populating this database, please visit
Enter New Survey
Surveys Pending Data Load
Surveys Pending Approval
Completed Surveys
My Shortcuts
List of Completed Surveys
Total Records: 1
SURVEY ID
DATE OF SURVEY
TITLE OF SURVEY
CCS-0001 (View) 01/09/2001 GR121905
1 of 1
Save current web page to "My Shortcuts"
Go!
SURVEY ID
CCS-0001
SURVEY DESCRIPTION
RAW DATA FILE
GR121905.txt
SURVEY IMAGE
Mobile
Done
Local intranet